SYSTEM, AND A METHOD FOR PROVIDING A PREDICTION FOR CONTROLLING A SYSTEM

BACKGROUND

[0001] Electronic devices, e.g. smart phones and computers, may carry a plurality of functionalities, for example programs for different needs and modules for positioning, communication and entertainment. The variety of tasks that can be performed with these devices is large, and the individual tasks may be complex in nature. A lot of the work carried out in today's world is done with the help of computers. Electronic devices have become a part of everyday life in free time, as well.

[0002] The user of the electronic device may be overwhelmed by the variety of functions provided by the device. For this purpose, the devices may provide ways of customizing the looks and the arrangement of functions in the device so that the functions needed by the user are easily reachable.

[0003] The user may customize the device e.g. by using a user interface.

SUMMARY

[0004] An object of the invention is to provide a method for providing a prediction for controlling a system. An object of the invention is to provide a computer program for providing a prediction for controlling a system. An object of the invention is to provide a computer program product for providing a prediction for controlling a system. An object of the invention is to provide an apparatus for providing a prediction for controlling the apparatus. An object of the invention is to provide a system for providing a prediction for controlling a system. An object of the invention is to provide a means for providing a prediction for controlling a system.

[0005] According to a first aspect of the invention, there is provided a method comprising:

[0006] providing a query comprising one or more query words (Q_1, Q_2),

[0007] accessing a matrix (EX1) containing co-occurrence data stored as vectors of the matrix (EX1),

[0008] determining a first auxiliary vector (v_{k+1}) by identifying a vector (v_{k+1}) of the matrix (EX1) associated with a first query word (Q1),

[0009] forming a query vector (QV1) by using the first auxiliary vector (v_{k+1}), and

[0010] determining a prediction (OUT1) by comparing the query vector (QV1) with the vectors of the matrix (EX1).

[0011] According to a second aspect of the invention, there is provided a computer program (PROG1), which when executed by one or more data processors (CNT1) is for performing a method comprising:

[0012] providing a query comprising one or more query words (Q_1, Q_2),

[0013] accessing a matrix (EX1) containing co-occurrence data stored as vectors of the matrix (EX1),

[0014] determining a first auxiliary vector (v_{k+1}) by identifying a vector (v_{k+1}) of the matrix (EX1) associated with a first query word (Q1),

[0015] forming a query vector (QV1) by using the first auxiliary vector (v_{k+1}), and

[0016] determining a prediction (OUT1) by comparing the query vector (QV1) with the vectors of the matrix (EX1).

[0017] According to a third aspect of the invention, there is provided a computer-readable medium storing computer code (PROG1), which when executed by one or more data processors (CNT1) is for performing a method comprising:

[0018] providing a query comprising one or more query words (Q_1, Q_2),

[0019] accessing a matrix (EX1) containing co-occurrence data stored as vectors of the matrix (EX1),

[0020] determining a first auxiliary vector (v_{k+1}) by identifying a vector (v_{k+1}) of the matrix (EX1) associated with a first query word (Q1),

[0021] forming a query vector (QV1) by using the first auxiliary vector (v_{k+1}), and

[0022] determining a prediction (OUT1) by comparing the query vector (QV1) with the vectors of the matrix (EX1).

[0023] According to a fourth aspect of the invention, there is provided an apparatus (400, 500, 1251), comprising:

[0024] a memory (MEM2) for storing vectors of a matrix (EX1),

[0025] a unit (LCU1, CNT1) for forming a query vector (QV1) by associating a vectors (v_{k+1}) of the matrix (EX1) with a word (Q1) of a query,

[0026] a difference analysis unit (DAU1) for providing a prediction (OUT1) by comparing the query vector (QV1) with vectors $(v_1, v_2, \ldots v_n)$ of the matrix (EX1).

[0027] According to a fifth aspect of the invention, there is provided a system (400, 500), comprising:

[0028] a memory (MEM2) for storing vectors of a matrix (EX1),

[0029] a unit (LCU1, CNT1) for forming a query vector (QV1) by associating a vectors (v_{k+1}) of the matrix (EX1) with a word (Q1) of a query,

[0030] a difference analysis unit (DAU1) for providing a prediction (OUT1) by comparing the query vector (QV1) with vectors $(v_1, v_2, \ldots v_n)$ of the matrix (EX1).

[0031] According to a sixth aspect of the invention, there is provided a means (400, 500) for providing a prediction (OUT1), comprising:

[0032] a means (MEM2) for storing data configured to store vectors of a matrix (EX1),

[0033] a means (LCU1, CNT1) for forming a query vector (QV1) configured to form a query vector (QV1) by associating a vectors (v_{k+1}) of the matrix (EX1) with a word (Q1) of a query,

[0034] a means for (DAU1) for analyzing difference configured to provide a prediction (OUT1) by comparing the query vector (QV1) with vectors $(v_1, v_2, \ldots v_n)$ of the matrix (EX1).

[0035] According to a seventh aspect of the invention, there is provided a computer program product embodied on a nontransitory computer-readable medium, said medium including one or more computer-executable instructions that when executed by one or more processors cause a system to carry out the following:

[0036] to provide a query comprising one or more query words (Q_1, Q_2),

[0037] to access a matrix (EX1) containing co-occurrence data stored as vectors of the matrix (EX1),